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Structure of heme

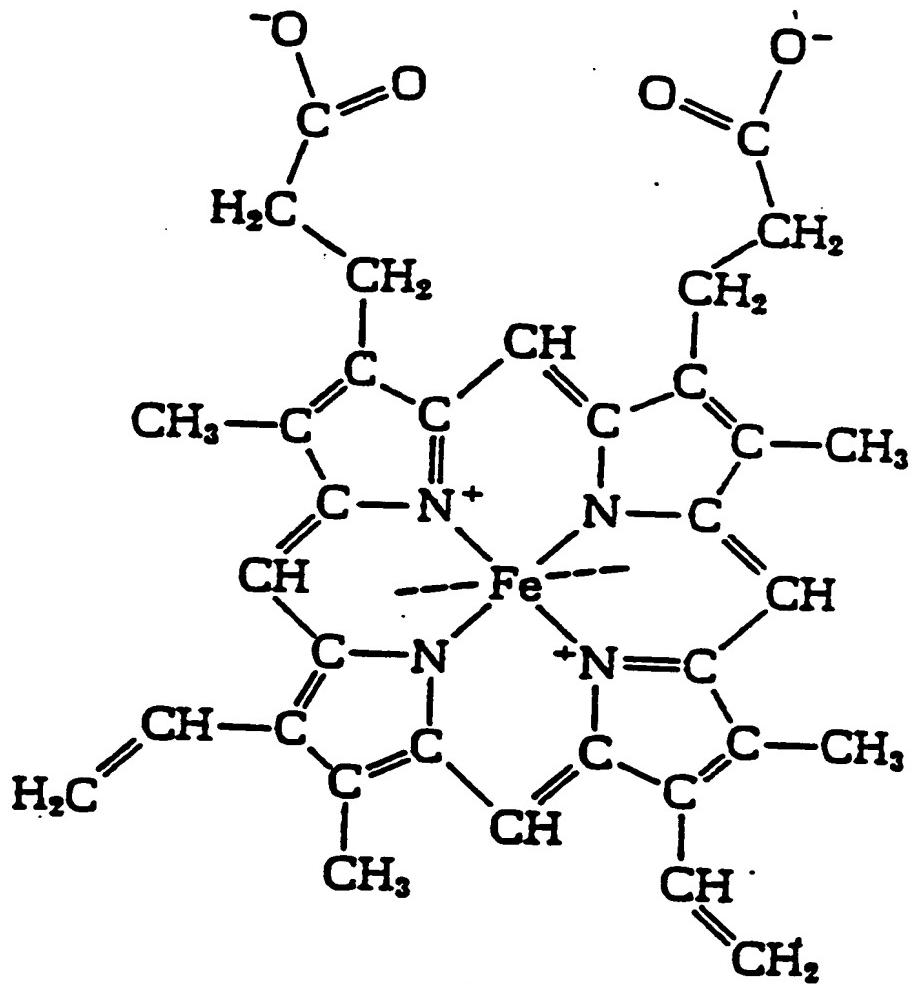


FIGURE 1

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Alpha globin sequence:

1	GTG	TCT	CCT	GCC	GAC	AAG	ACC	AAC	GTC	AAG	GCC	TGG	GCC	45	
	Val	Leu	Ser	Pro	Ala	Asp	Lys	Thr	Asn	Val	Lys	Ala	Ala	Trp	Gly
46	AAG	GTT	GCC	GGG	CAC	GCT	GCC	GAG	TAT	GGT	GGG	GAG	CTG	GAG	90
	Lys	Val	Gly	Ala	His	Ala	Gly	Glu	Tyr	Gly	Ala	Glu	Ala	Leu	Glu
91	AGG	ATG	TTC	CTG	TCC	CCC	ACC	AAC	AAG	ACC	TAC	TTC	CGG	CAC	135
	Arg	Met	Phe	Leu	Ser	Phe	Pro	Thr	Thr	Lys	Thr	Tyr	Phe	Pro	His
136	TTC	GAC	CTG	AGC	CAC	GCC	TCT	GCC	CAG	GTT	AAG	GCC	CAC	GCC	180
	Phe	Asp	Leu	Ser	His	Gly	Ser	Ala	Gln	Val	Lys	Gly	His	Gly	Lys
181	AAG	GTG	GCC	GAC	GGG	CTG	ACC	AAC	GCC	GTG	GGG	CAC	GTG	GAC	225
	Lys	Val	Ala	Asp	Ala	Leu	Thr	Asn	Ala	Val	Ala	Val	Ala	Val	Asp
226	ATG	CCC	AAC	GCG	CTG	TCC	GCC	CTG	AGC	GAC	CTG	CAC	GGG	CAC	270
	Met	Pro	Asn	Ala	Leu	Ser	Ala	Leu	Ser	Asp	Leu	His	Ala	His	Lys
271	CTT	CGG	GTG	GAC	CGG	GTC	AAC	TTC	AAG	CTC	CTA	AGC	CAC	TGC	315
	Leu	Arg	Val	Asp	Pro	Val	Asn	Phe	Lys	Leu	Leu	Ser	His	Cys	Leu
316	CTG	ACC	CTG	GCC	GCC	CAC	CTC	CCC	GCC	GGG	TTC	ACC	CCT	GGG	360
	Leu	Val	Thr	Leu	Ala	Ala	His	Leu	Pro	Ala	Glu	Phe	Thr	Pro	Ala
361	GTG	CAC	GCC	TCC	CTG	GAC	AAG	TTC	CTG	GCT	TCT	GTC	AGC	ACC	405
	Val	His	Ala	Ser	Leu	Asp	Lys	Phe	Leu	Ala	Ser	Val	Ser	Thr	Val
406	CTG	ACC	TCC	AAA	TAC	CGT									
	Leu	Thr	Ser	Lys	Tyr	Arg									

FIGURE 2

Beta globin sequence:

1    GTC CAC CTG ACT CCT GAG GAG TCT GGC GTT ACT GGC CTG TGG 45  
Val His Leu Thr Pro Glu Glu Lys Ser Ala Val Thr Ala Leu Thr  
  
46    GGC AAG GTG AAC GTG GAT GAA GTT GGT GAG GGC CTG CGC AGG 90  
Gly Lys Val Asn Val Asp Glu Val Gly Gly Glu Ala Leu Gly Arg  
  
91    CTG CTG GTT GTC TAC CCT TGG ACC CAG AGG TTC TTT GAG TCC TTT 135  
Leu Leu Val Val Tyr Pro Thr Glu Arg Phe Phe Glu Ser Phe  
  
136 CGG GAT CTG TCC ACT CCT GAT GCT GTT ATG GGC AAC CCT AAG GTG 180  
Gly Asp Leu Ser Thr Pro Asp Ala Val Met Gly Asn Pro Lys Val  
  
181 AAG GCT CAT GGC AAG AAA GTG CTC GGT GCC TTT AGT GAT CGC CTG 225  
Lys Ala His Gly Lys Lys Val Leu Gly Ala Phe Ser Asp Gly Leu  
  
226 GCT CAC CTG GAC AAC CTC AAG CGC ACC TTT GCC ACA CTG AGT GAG 270  
Ala His Leu Asp Asn Leu Lys Gly Thr Phe Ala Thr Leu Ser Glu  
  
271 CTG CAC TGT GAC AAG CTG CAC GTG GAT CCT GAG AAC TTC AGG CTC 315  
Leu His Cys Asp Lys Leu His Val Asp Pro Glu Asn Phe Arg Leu  
  
316 CTG GGC AAC GTG CTG GTC TGT GTG CTG GGC CAT CAC TTT GGC AAA 360  
Leu Gly Asn Val Leu Val Cys Val Leu Ala His His Phe Gly Lys  
  
361 GAA TTC ACC CCA CCA GTG CAG GCT GCC TAT CAG AAA GTG GTG GCT 405  
Glu Phe Thr Pro Pro Val Glu Ala Ala Tyr Glu Lys Val Val Ala  
  
406 GCT GTC AAT GCC CTA GCC CAC AAG TAT CAC  
Gly Val Ala Asn Ala Leu Ala His Lys Tyr His

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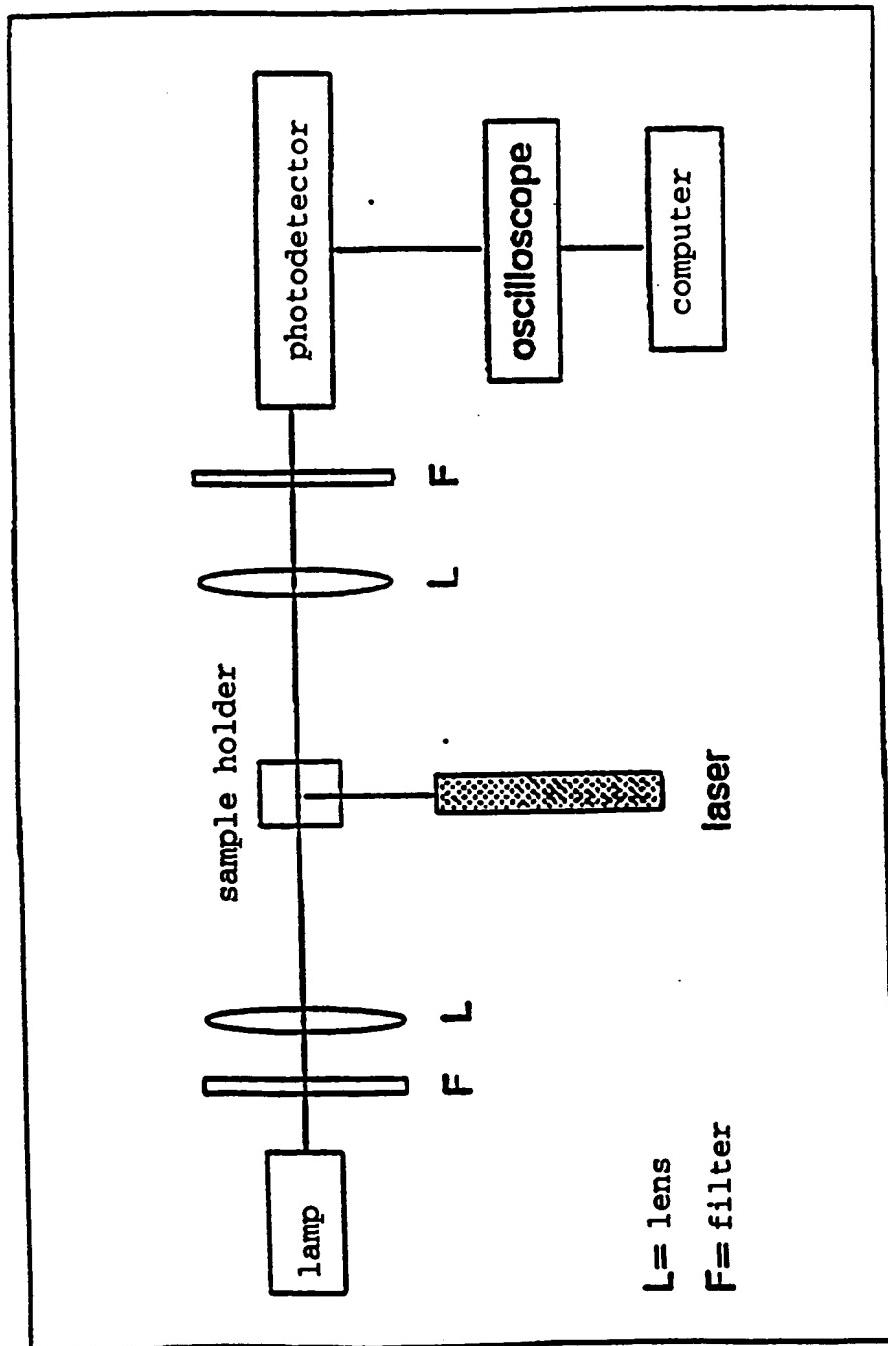


FIGURE 4

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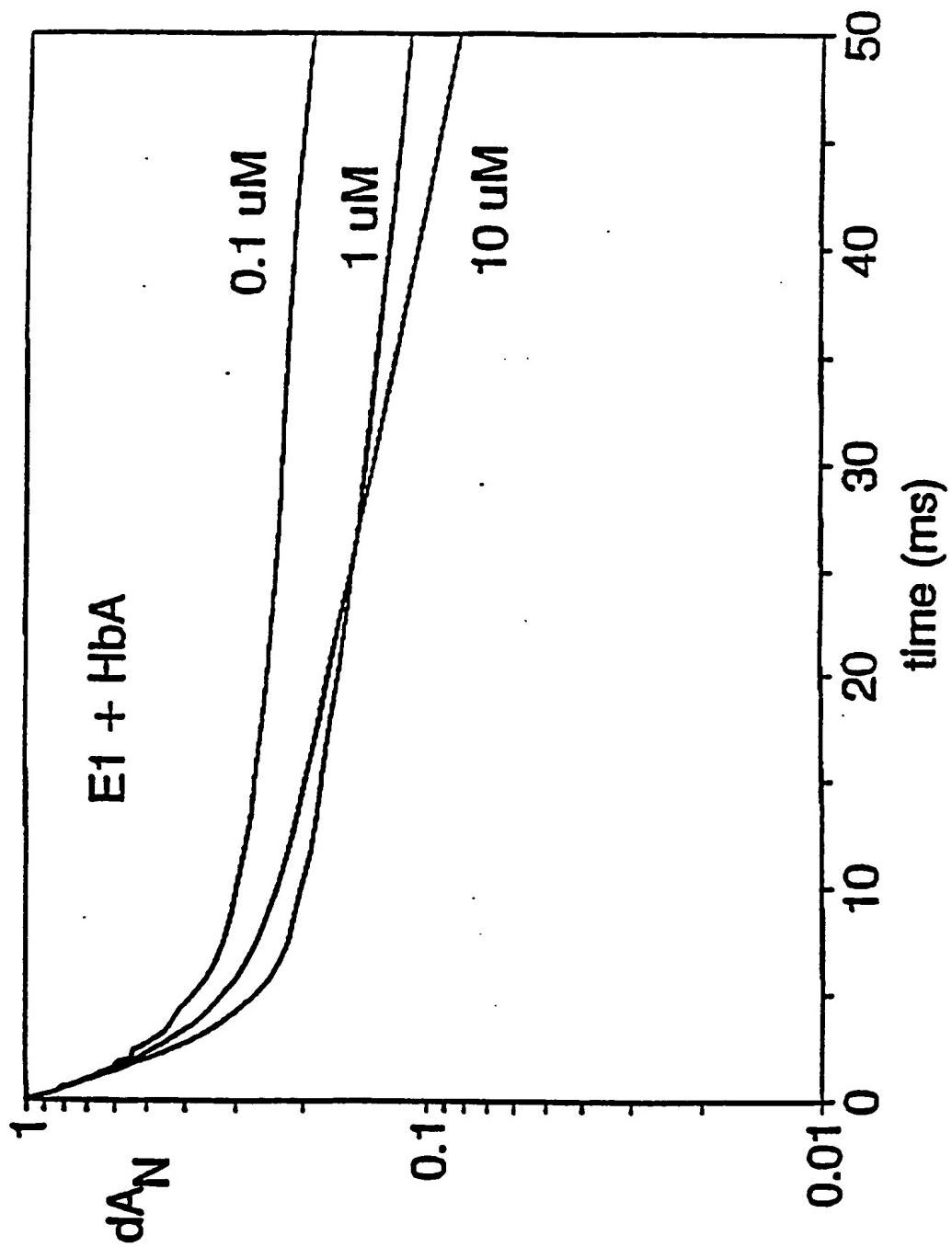
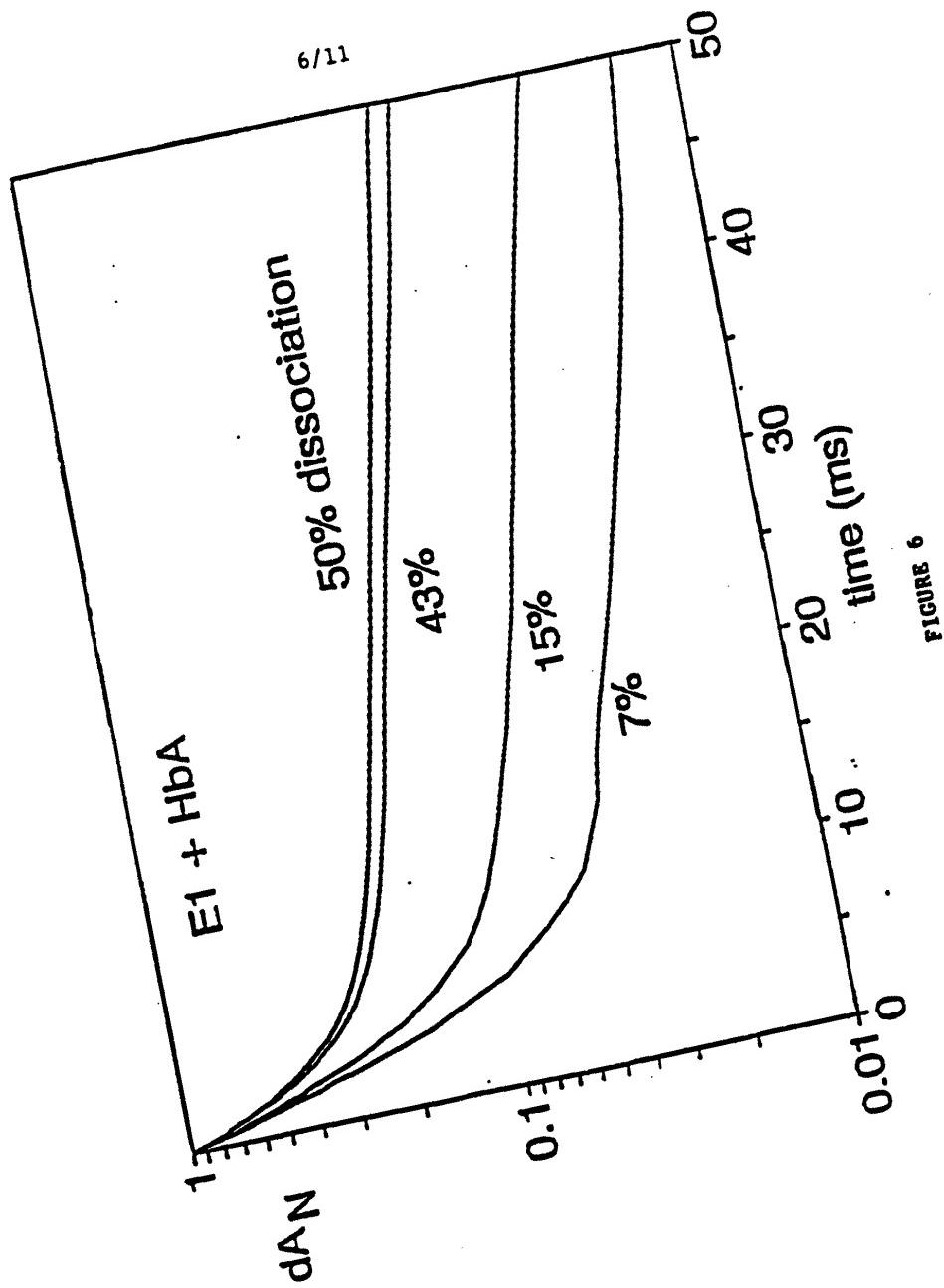


FIGURE 5

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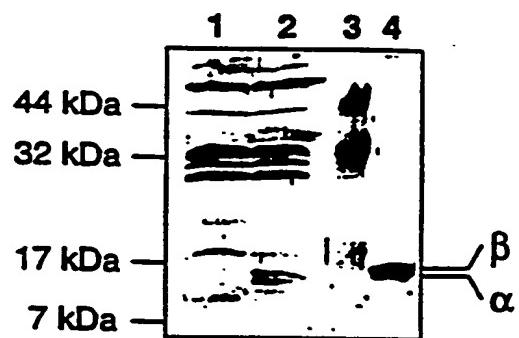
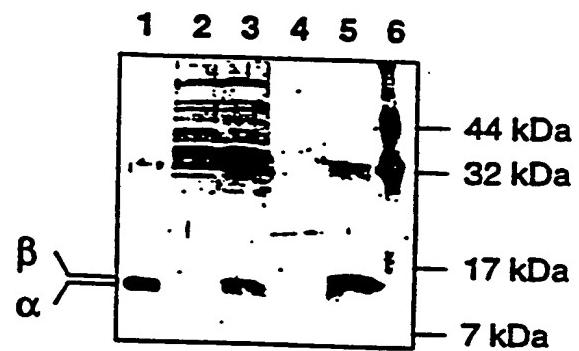


FIGURE 7

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**FIGURE 8**

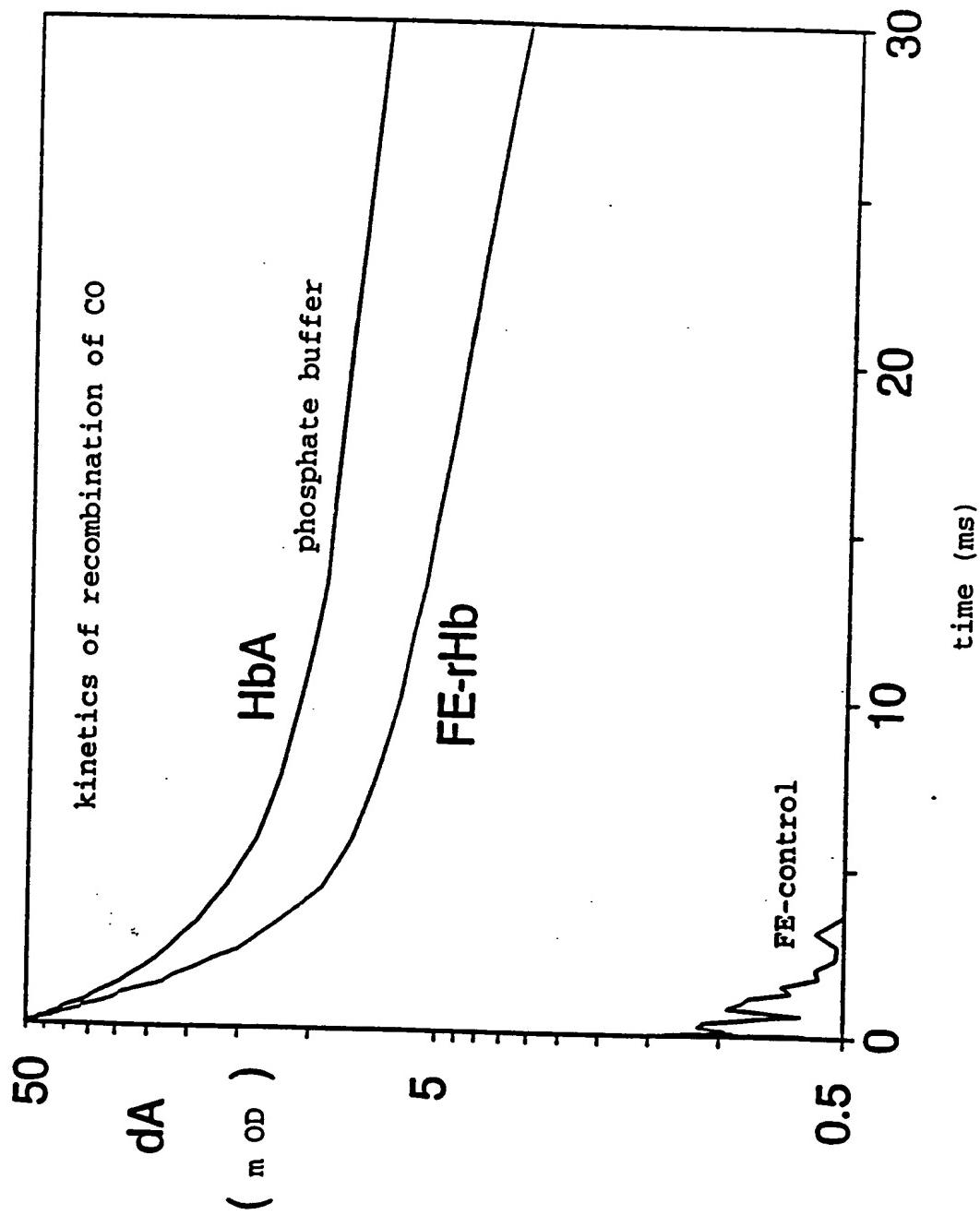


FIGURE 9

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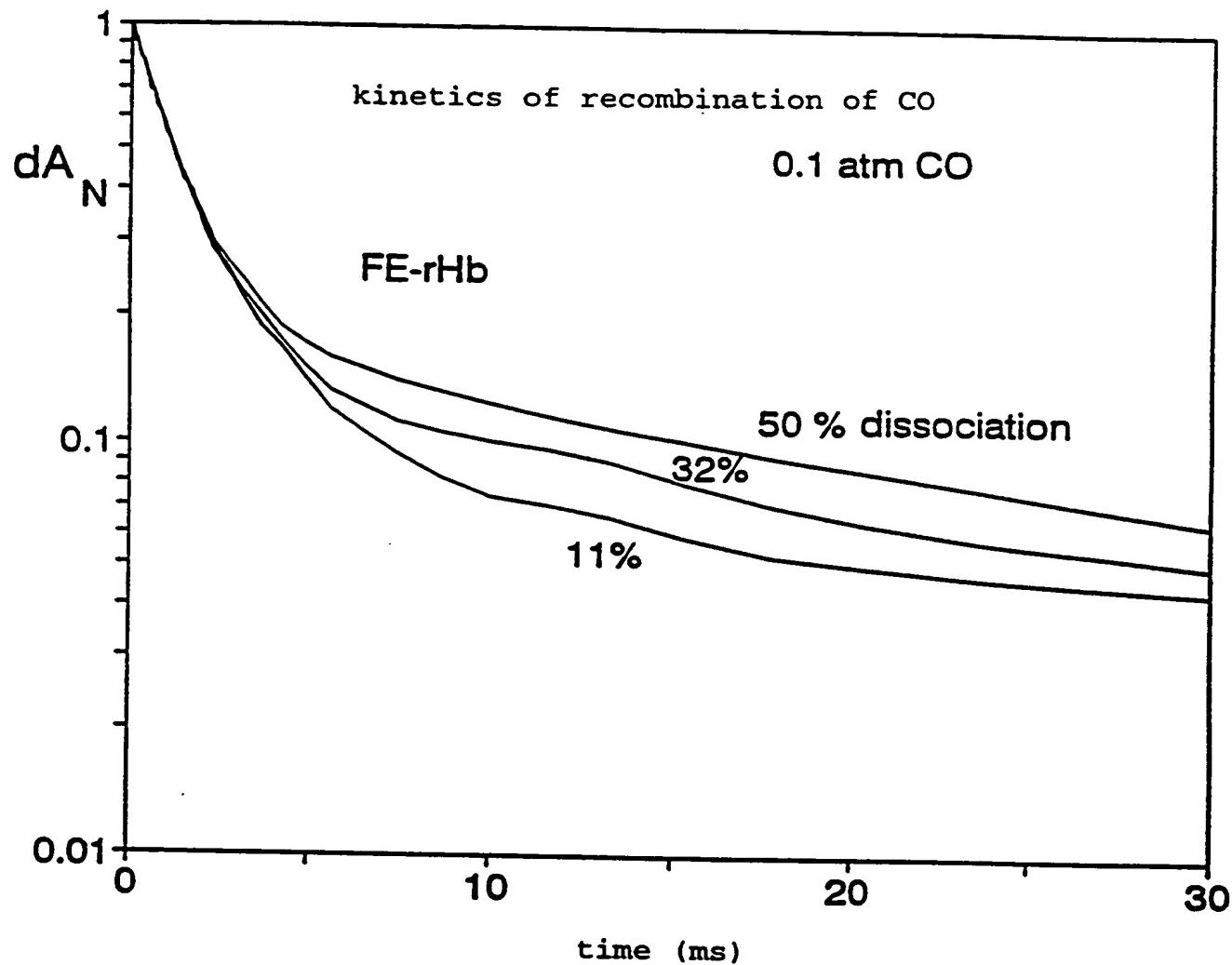


FIGURE 10

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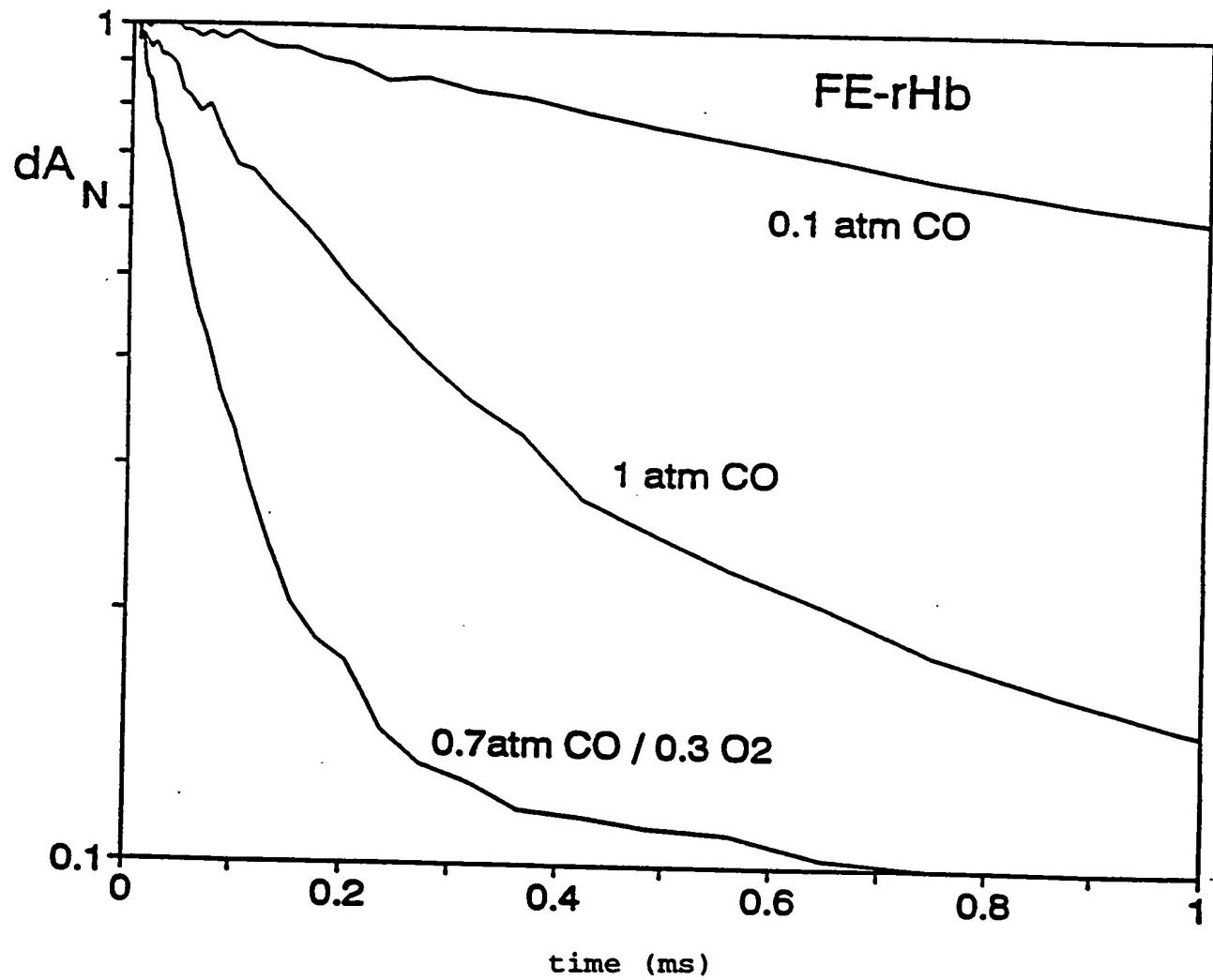


FIGURE 11